100

Document — 102

Node
Generator — 104

Node Grouper — 106

Region₁

Region₂ ... Regionₙ

Formatter — 106

Formatter

Formatter

Write to page

Write to page

Write to page

FIGURE 1

```
<bib>
  <book year="1999">
    <title>DBMS Internals</title>
    <author>
      <last>Ting</last>
      <first>I.</first>
    </author>
    <publish>Addision W.</publish>
  </book>
  <book year="2002">
    <title>Chinese Cooking</title>
    <author>
      <last>TingI</last>
    </author>
    <price>88.88</price>
  </book>
</bib>
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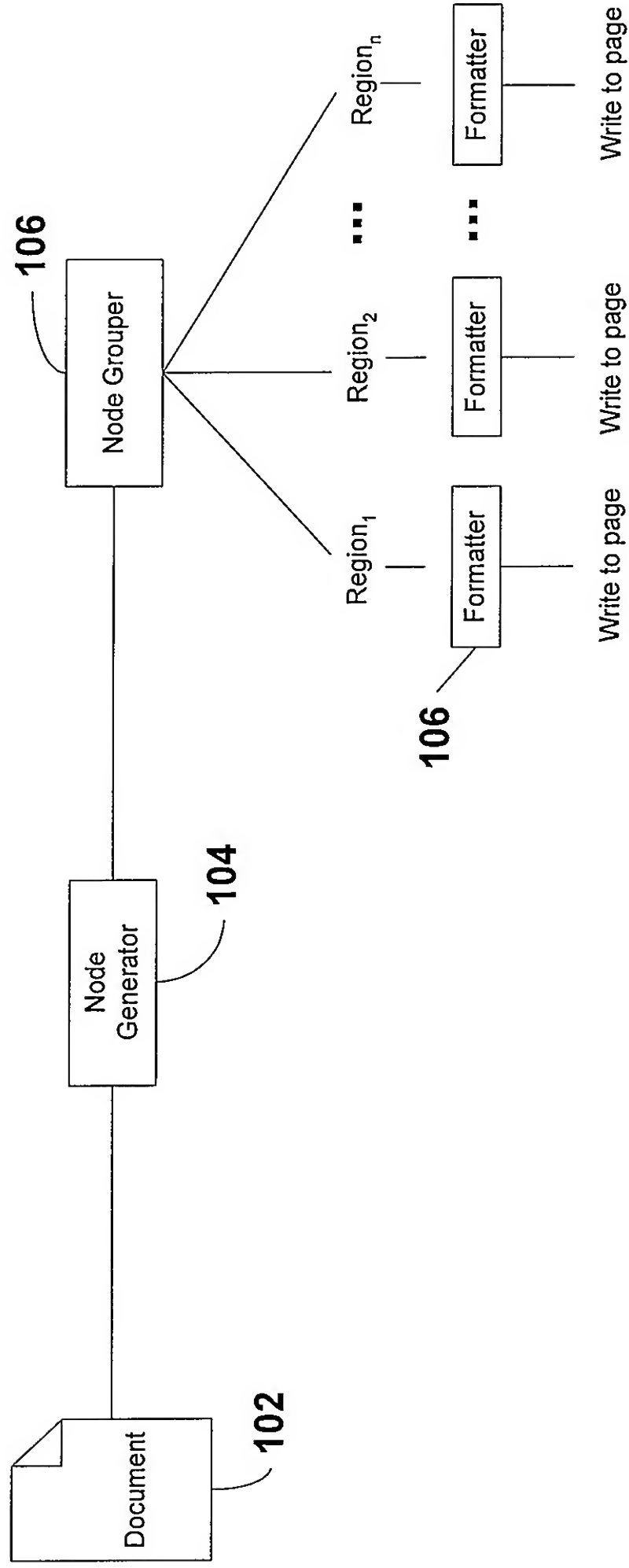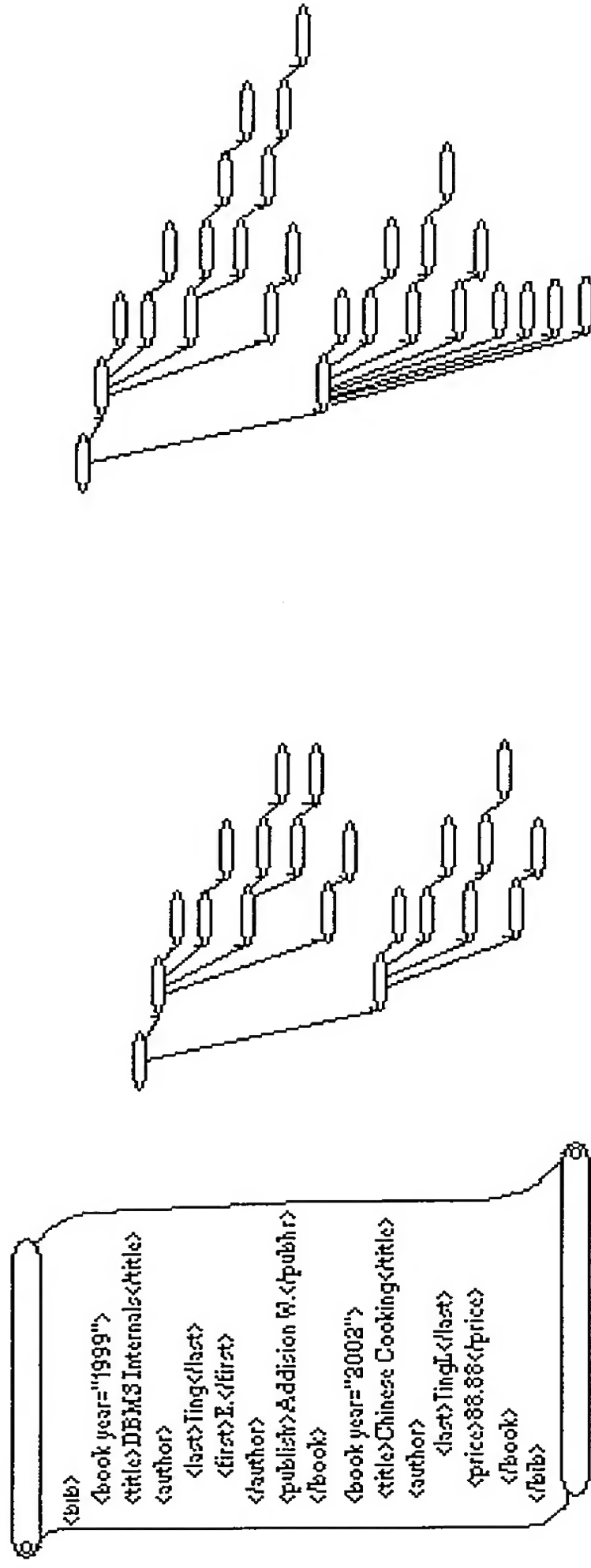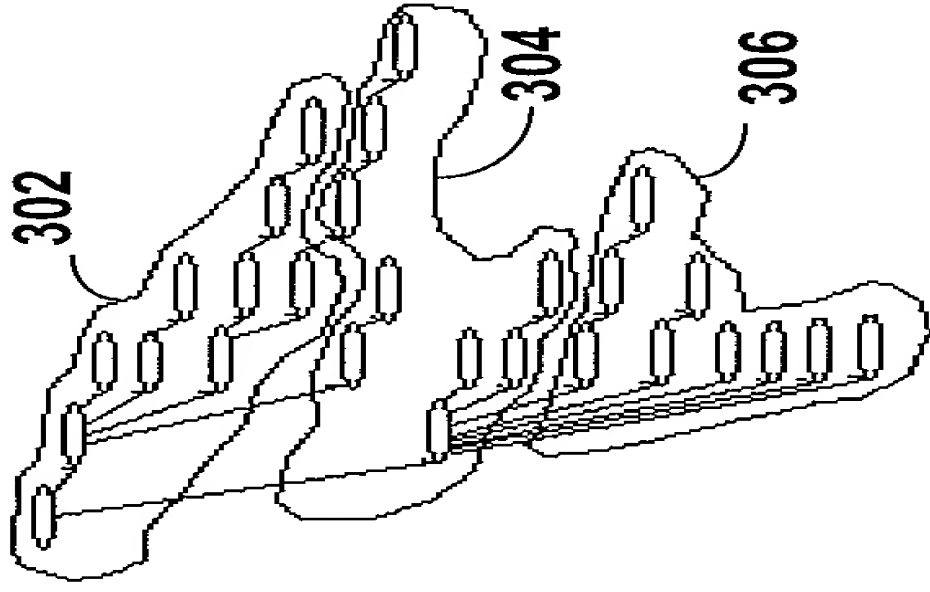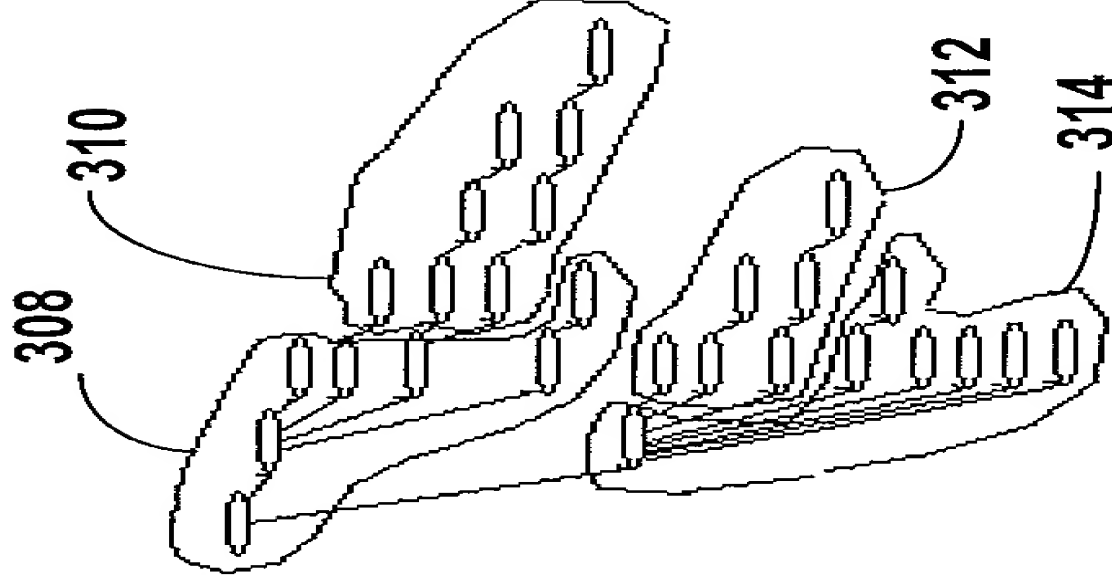
FIGURE 2

FIGURE 3a

FIGURE 3b
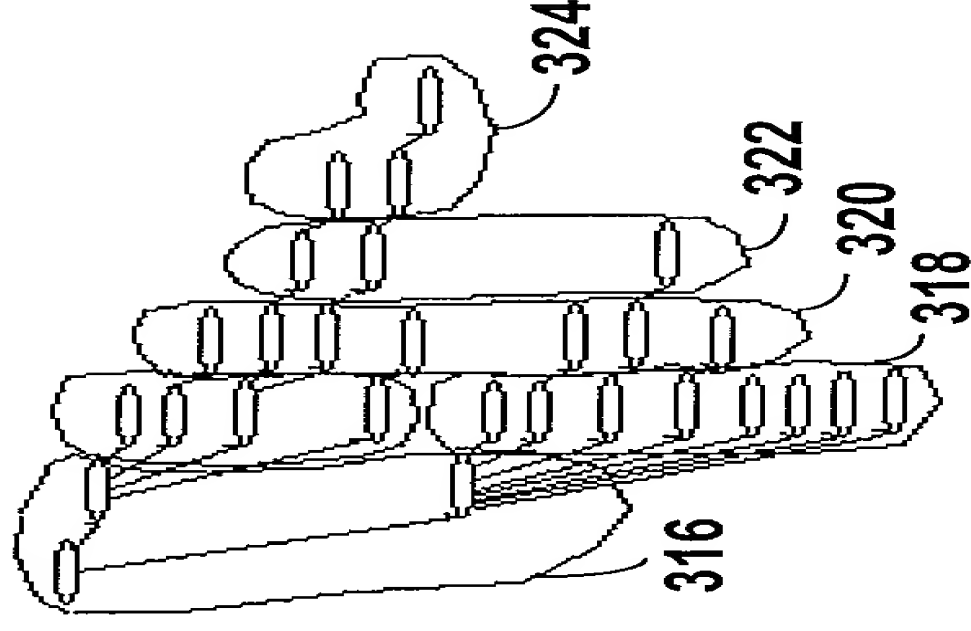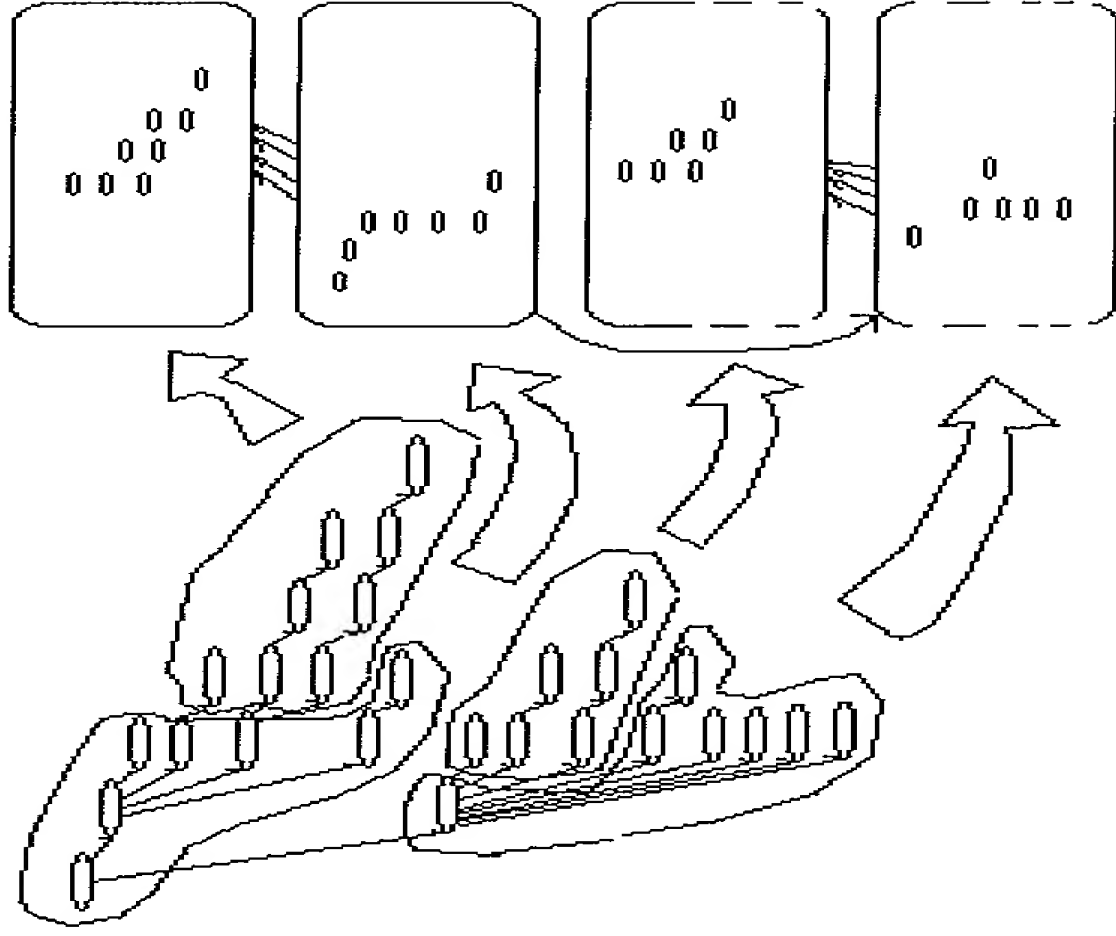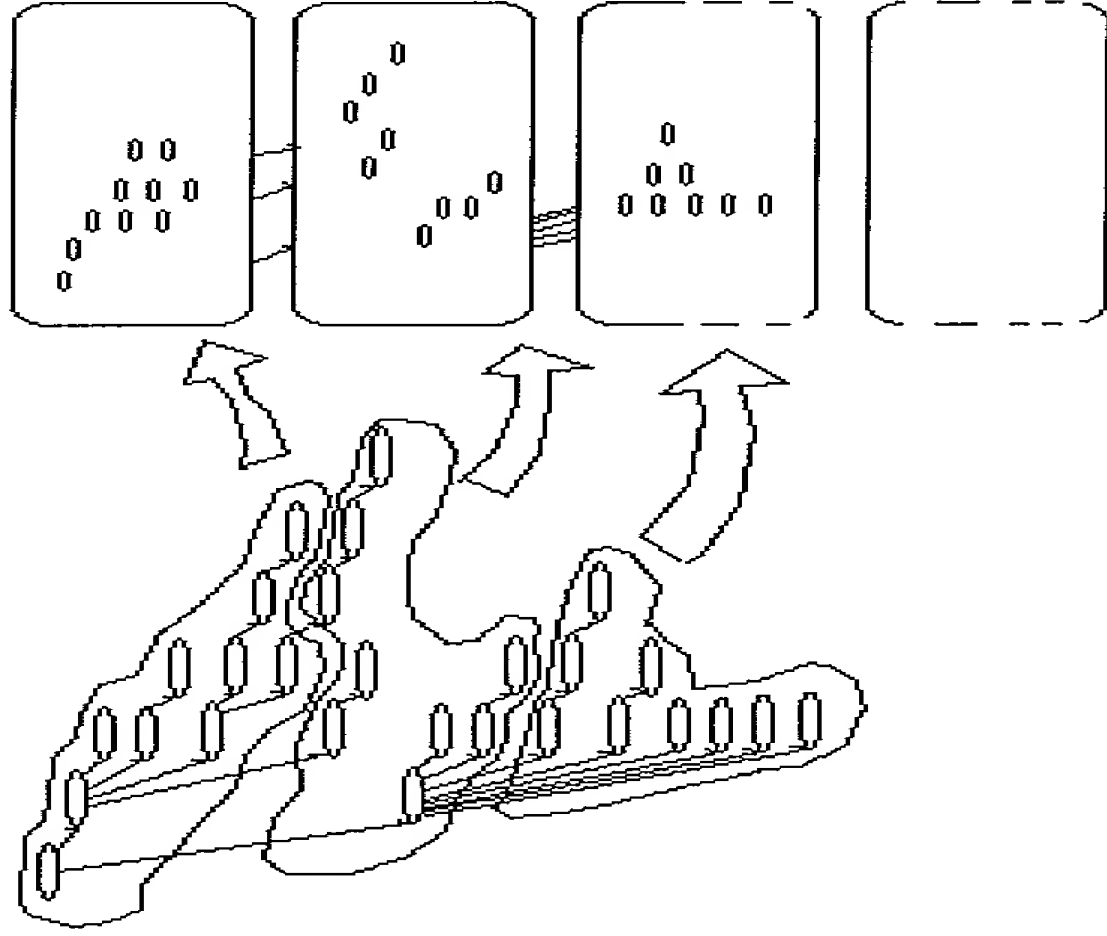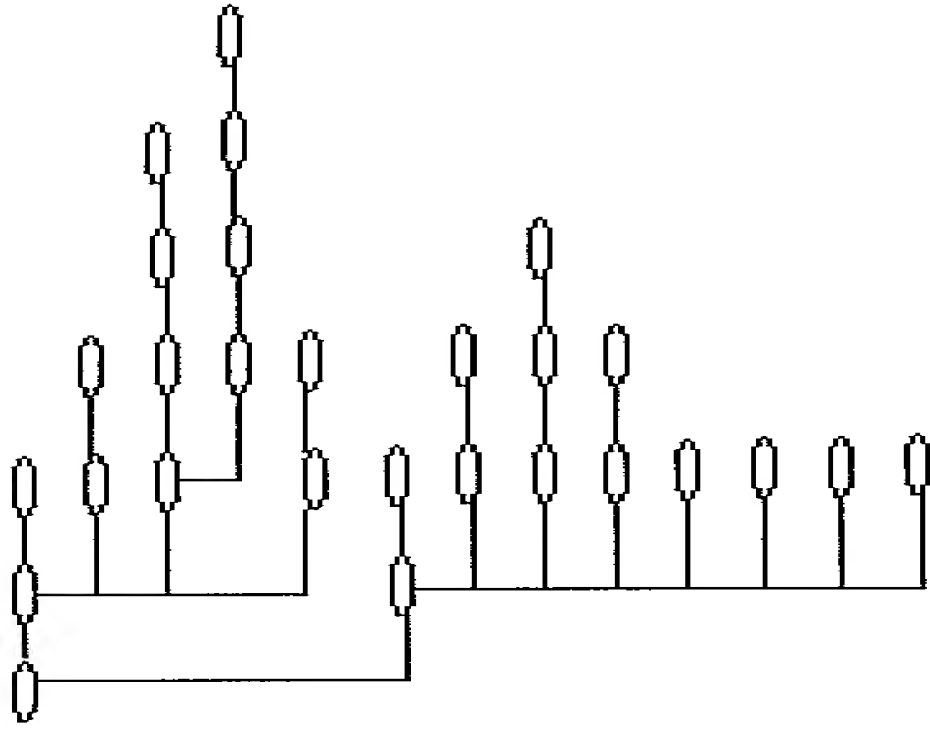
FIGURE 3c

FIGURE 4b

FIGURE 4a

FIGURE 5b

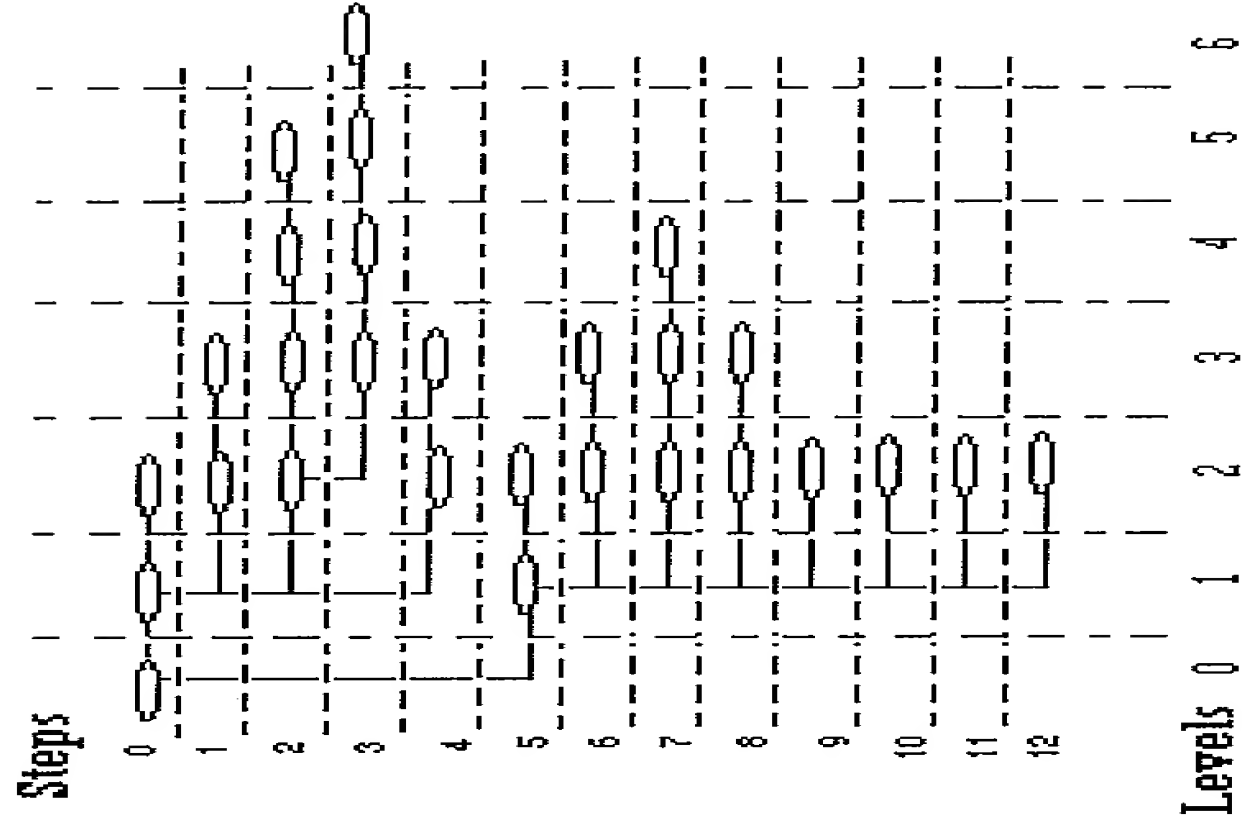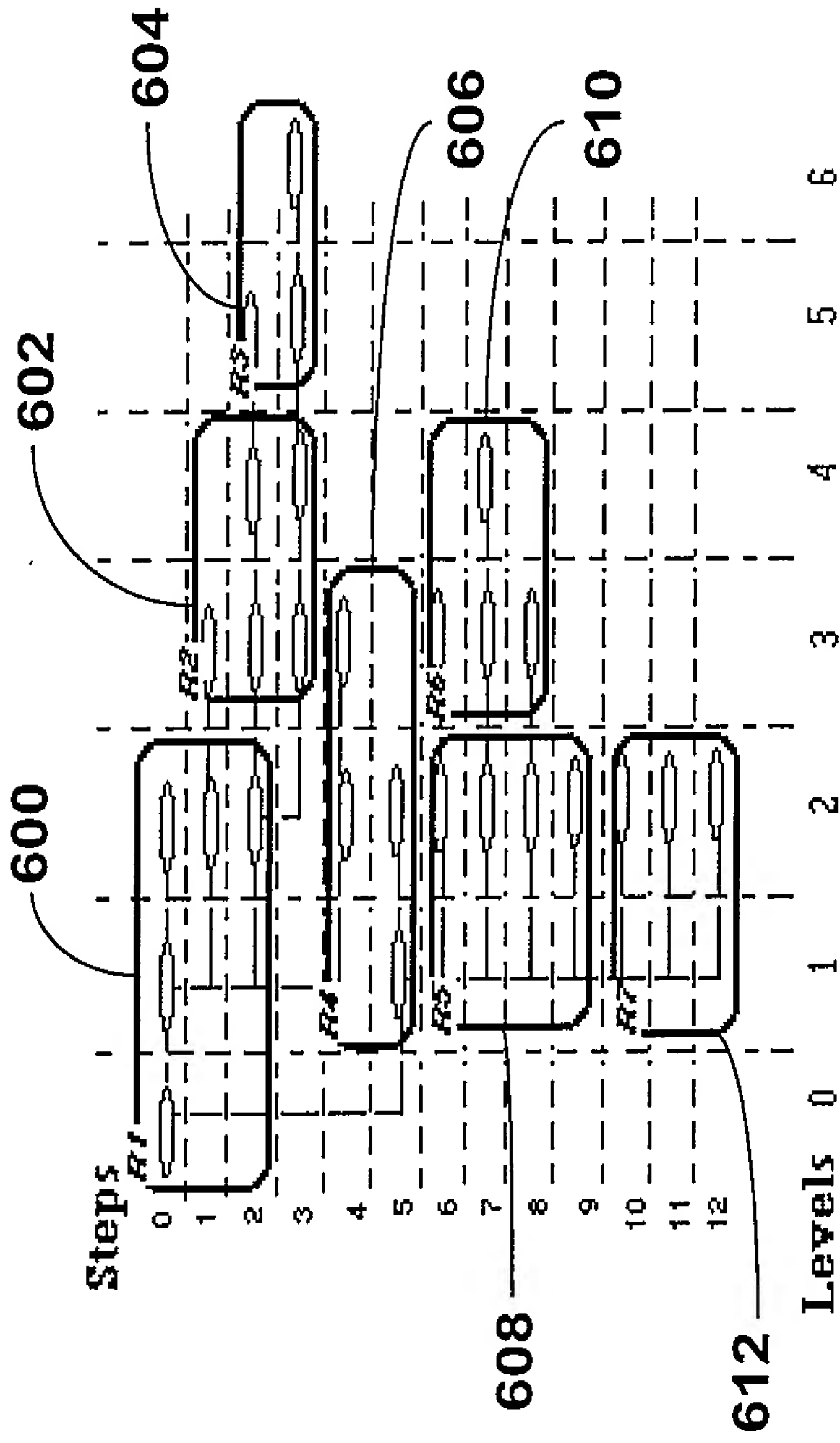FIGURE 5a

FIGURE 6

FIGURE 7

FIGURE 8

FIGURE 9

Effect on surrounding regions

Regions ordered prior
Max Step, Max Level △

Regions ordered next
Min Step, Min Level △
Max Step, Max Level △

Regions ordered prior
in the Same Step Range

Regions ordered next
in the Same Step Range

For any change within a Region,
Min Step, Min Level
remain constant

Change in Level

Change in Step

FIGURE 10

FIGURE 11

Index:
R1 (0, 0, 0, 0, 2, 2)
R2 (0, 0, 3, 1, 4, 3)
R2 (1, 0, 0, 0, 1, 1)
R9 (1, 0, 0, 2, 2, 3)
R10(1, 0, 0, 4, 2, 6)
R8 (1, 0, 2, 1, 3, 2)
R3 (0, 0, 5, 2, 6, 3)
R4 (0, 4, 1, 4, 3, 5)
R5 (0, 6, 2, 6, 2, 9)
R6 (0, 6, 3, 6, 4, 8)
R7 (0, 10, 2, 10, 2, 12)

FIGURE 12

Index: R1 (0, 0, 0, 0, 2, 2)
        R2 (0, 0, 3, 1, 4, 3)
        R2 (1, 0, 0, 0, 1, 1)
        R9 (1, 0, 0, 2, 2, 3)

        R9 (2, 0, 0, 0, 2, 1)
        R11 (2, 0, 1, 2, 2, 4)

        R10 (1, 0, 0, 4, 2, 6)
        R8 (1, 0, 2, 1, 3, 2)
        R3 (0, 0, 5, 2, 6, 3)
        R4 (0, 0, 4, 1, 4, 3, 5)
        R5 (0, 0, 6, 2, 6, 2, 9)
        R6 (0, 0, 6, 3, 6, 4, 8)
        R7 (0, 10, 2, 10, 2, 12)

1200

1202

1204

FIGURE 13

Index: R1 (0, 0, 0, 0, 2, 2)
→   R2 (0, 0, 3, 1, 4, 2)
        R9 (0, 0, 3, 3, 5, 4)
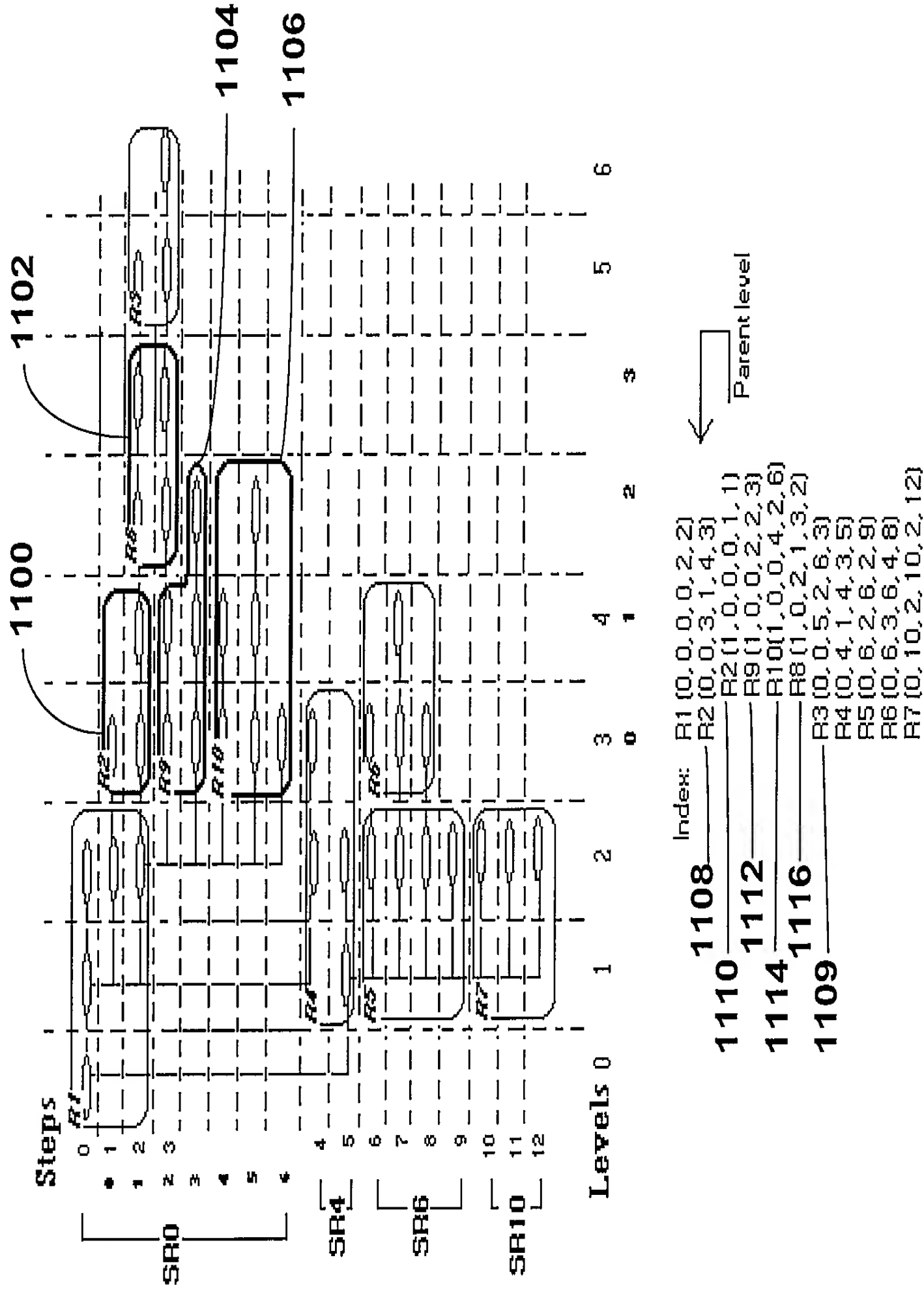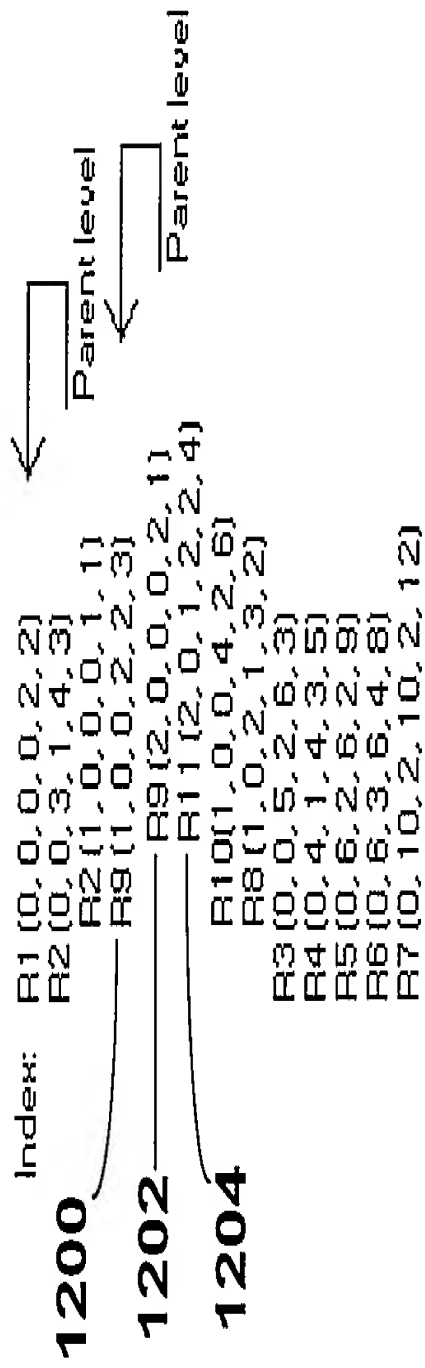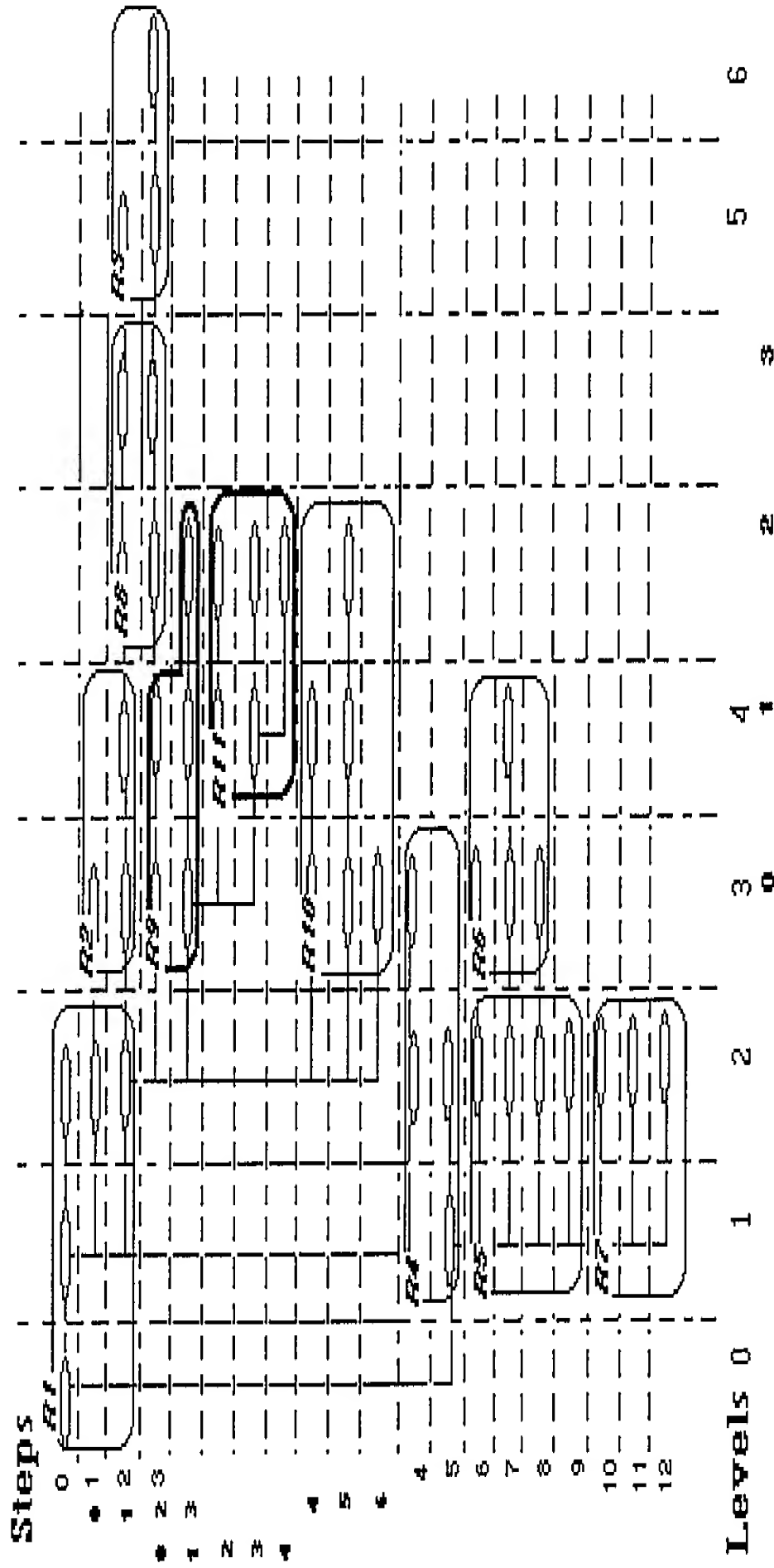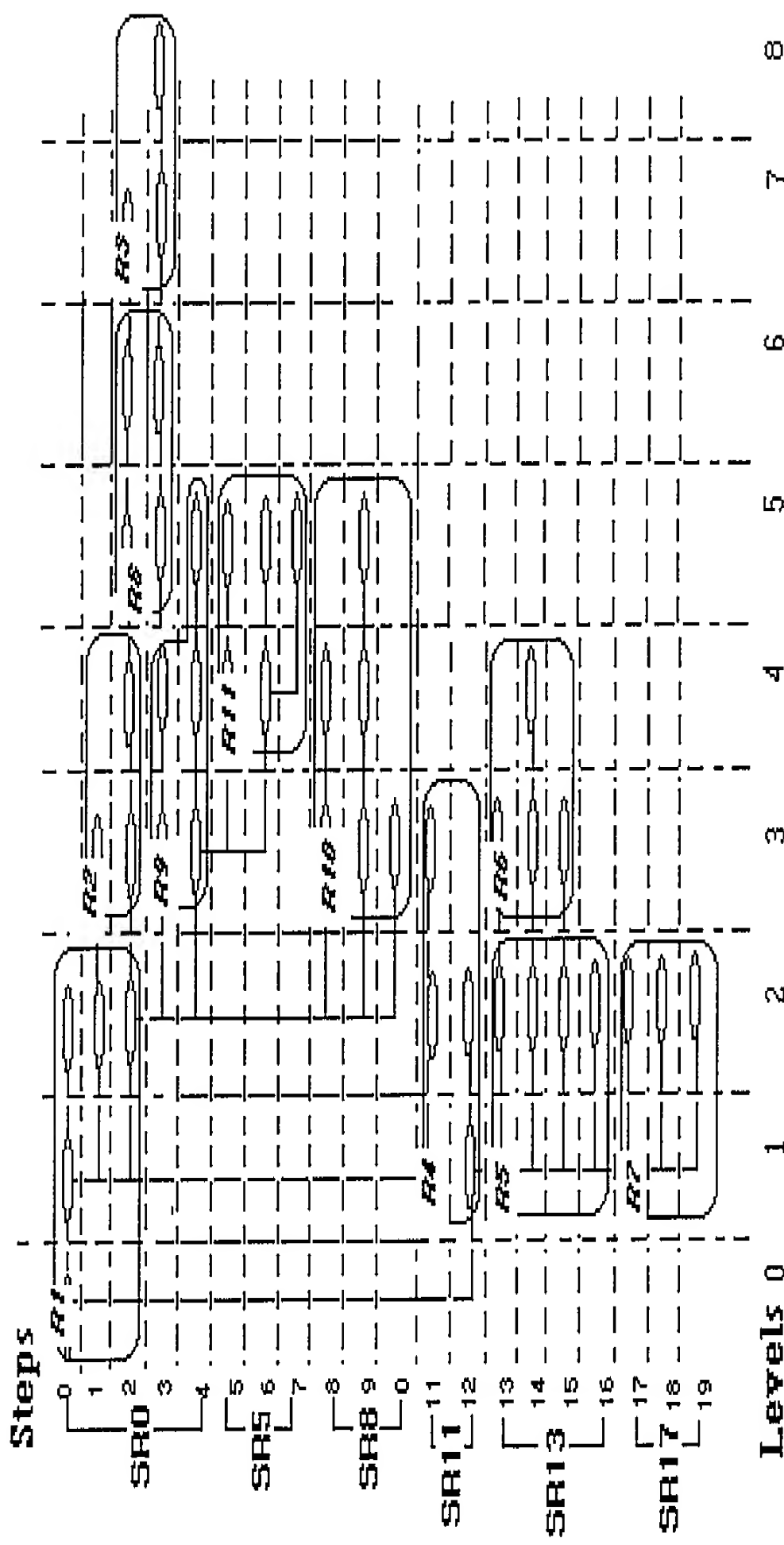   R8 (0, 0, 5, 2, 6, 3)
        R3 (0, 0, 7, 2, 8, 3)
        R11 (0, 5, 4, 5, 5, 7)
        R10 (0, 8, 3, 8, 5, 10)
        R4 (0, 11, 1, 11, 3, 12)
        R5 (0, 13, 2, 13, 2, 16)
        R6 (0, 13, 3, 13, 4, 15)
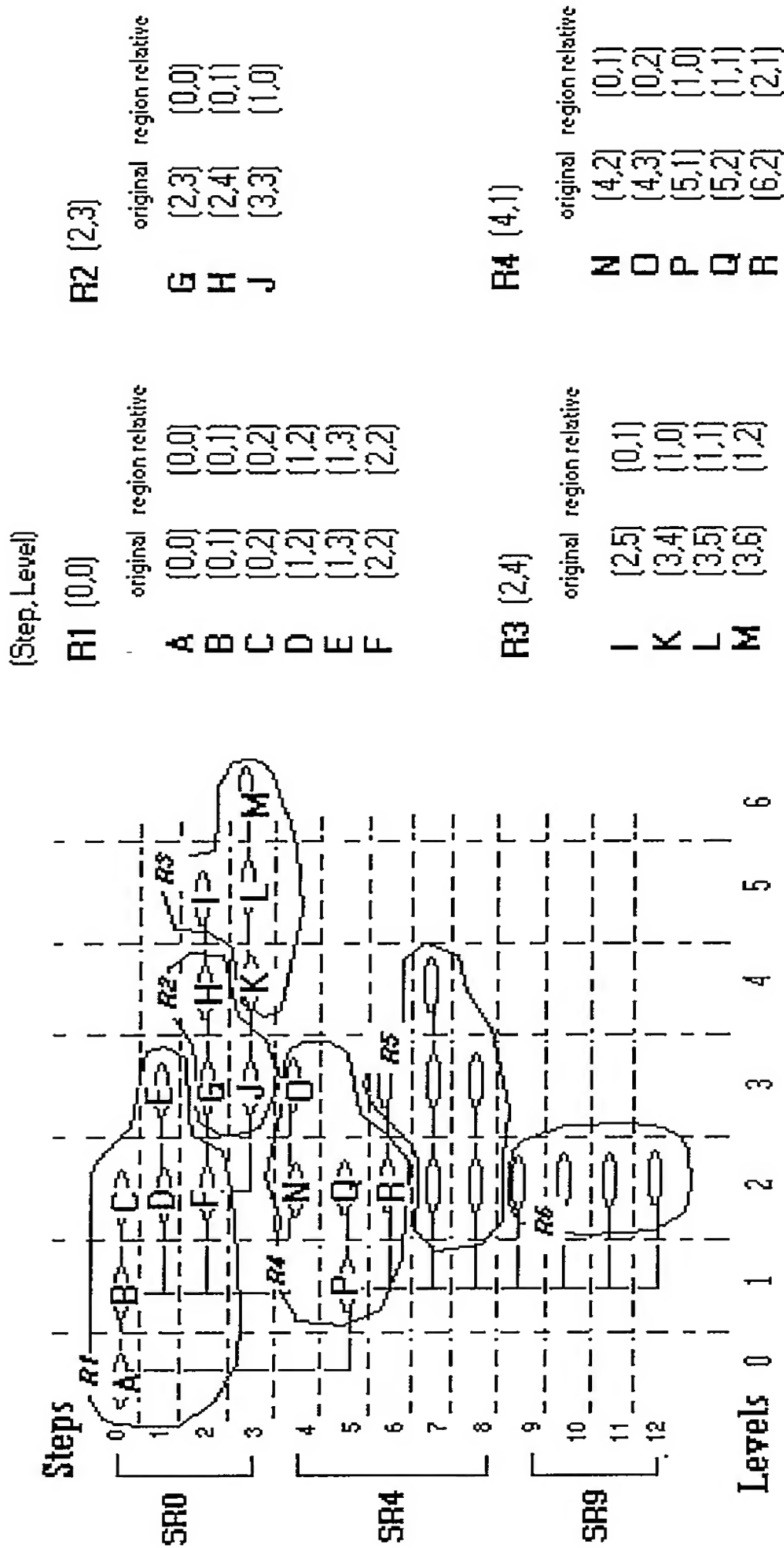   R7 (0, 17, 2, 17, 2, 19)

(Step, Level)

R1 (0,0)

	original	region relative
A	[0,0]	[0,0]
B	[0,1]	[0,1]
C	[0,2]	[0,2]
D	[1,2]	[1,2]
E	[1,3]	[1,3]
F	[2,2]	[2,2]

R2 (2,3)

	original	region relative
G	[2,3]	[0,0]
H	[2,4]	[0,1]
J	[3,3]	[1,0]

R3 (2,4)

	original	region relative
I	[2,5]	[0,1]
K	[3,4]	[1,0]
L	[3,5]	[1,1]
M	[3,6]	[1,2]

R4 (4,1)

	original	region relative
N	[4,2]	[0,1]
O	[4,3]	[0,2]
P	[5,1]	[1,0]
Q	[5,2]	[1,1]
R	[6,2]	[2,1]

FIGURE 14b

Steps

Levels 0 1 2 3 4 5 6

SR0

SR4

SR9

Index:
R1(0,0,0,0,3,2)
R2(0,0,3,2,4,3)
R3(0,0,4,2,3,6)
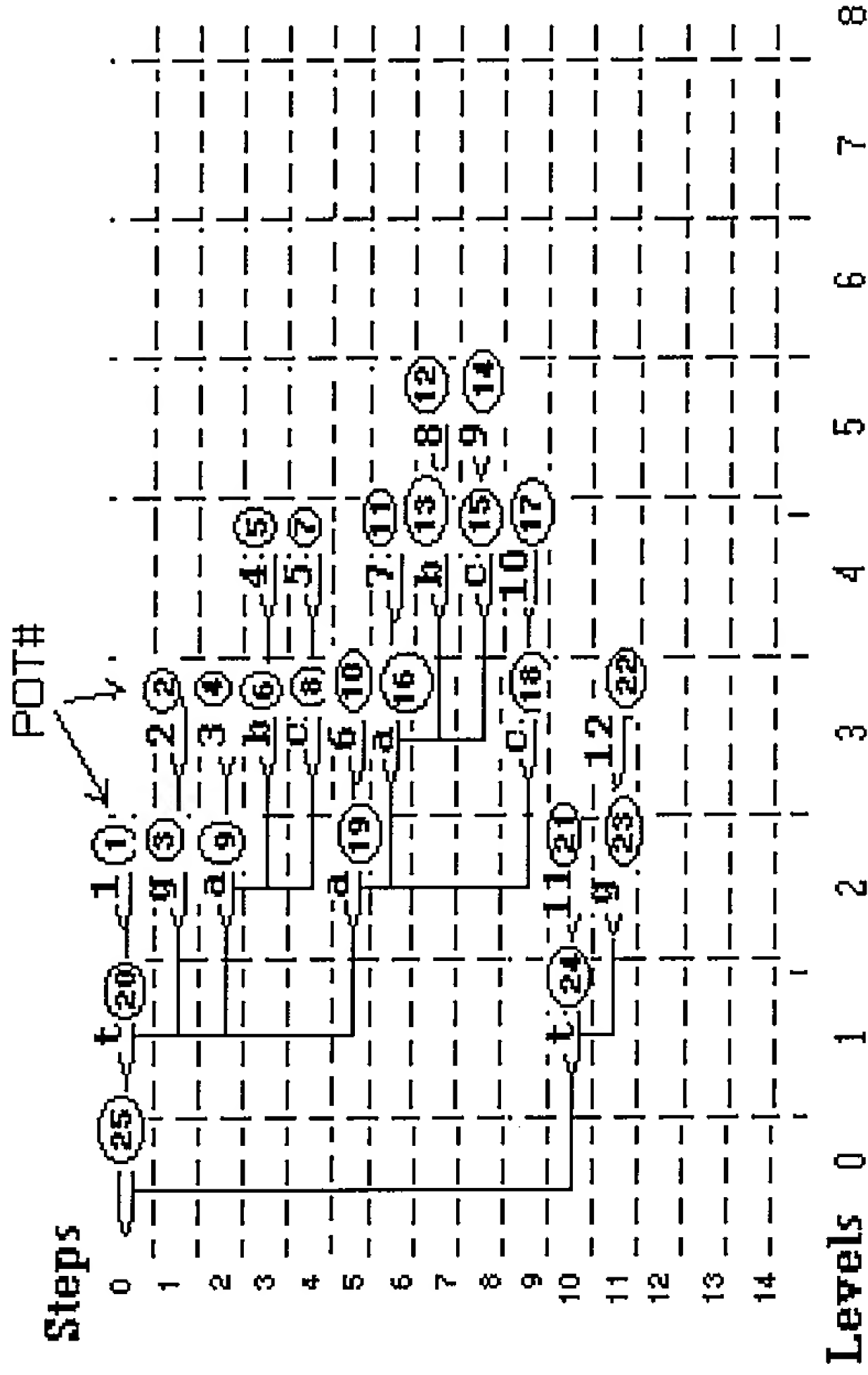R4(0,4,1,4,3,5)
R5(0,4,2,6,4,8)
R6(0,9,2,9,2,12)

FIGURE 14a

FIGURE 15

Step
0
1
2
3
4
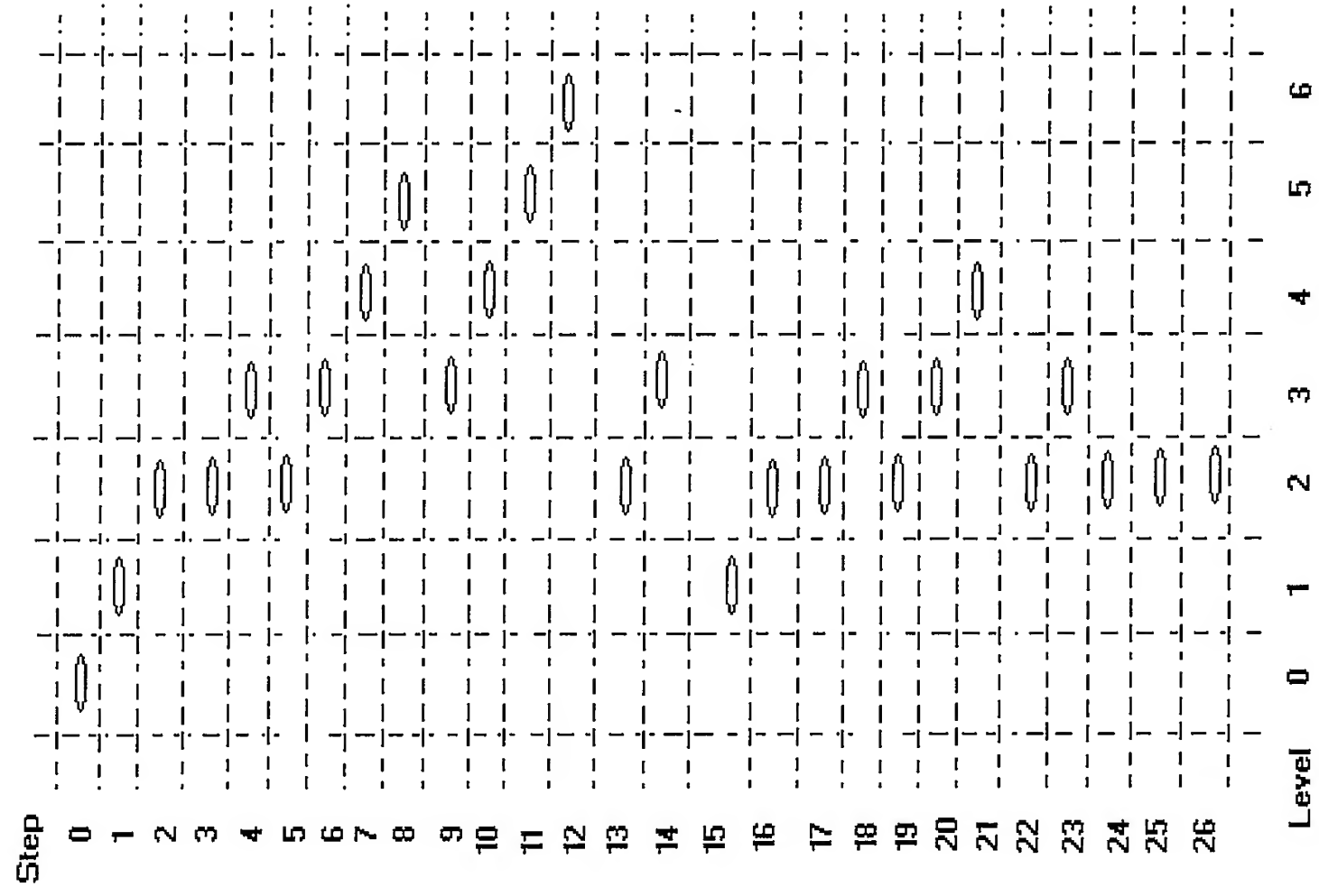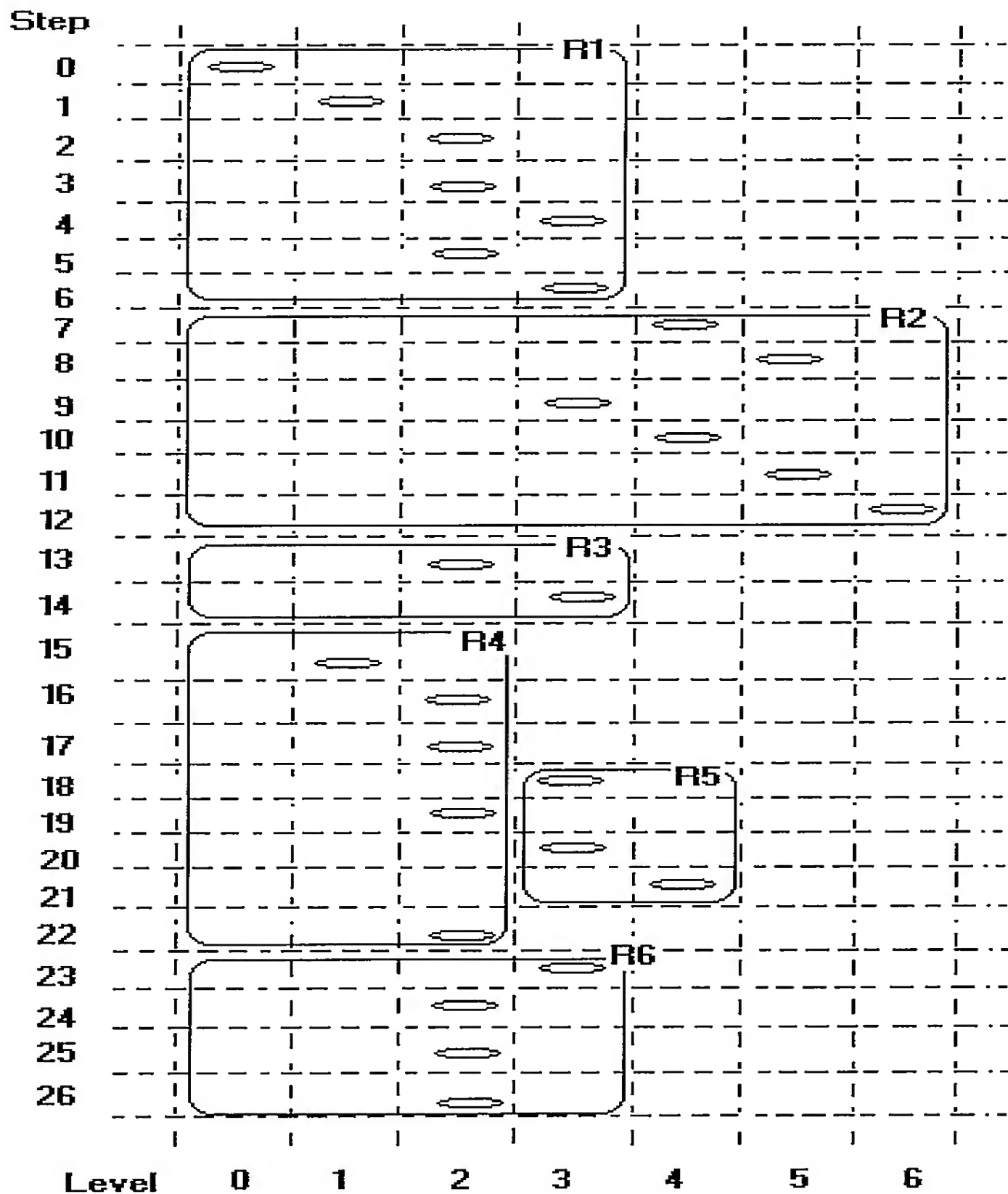5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

Level   0   1   2   3   4   5   6

FIGURE 16b

FIGURE 16a

FIGURE 16c

Modifications

Step

	0	1	2	3	4	5	6
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

Level

Step

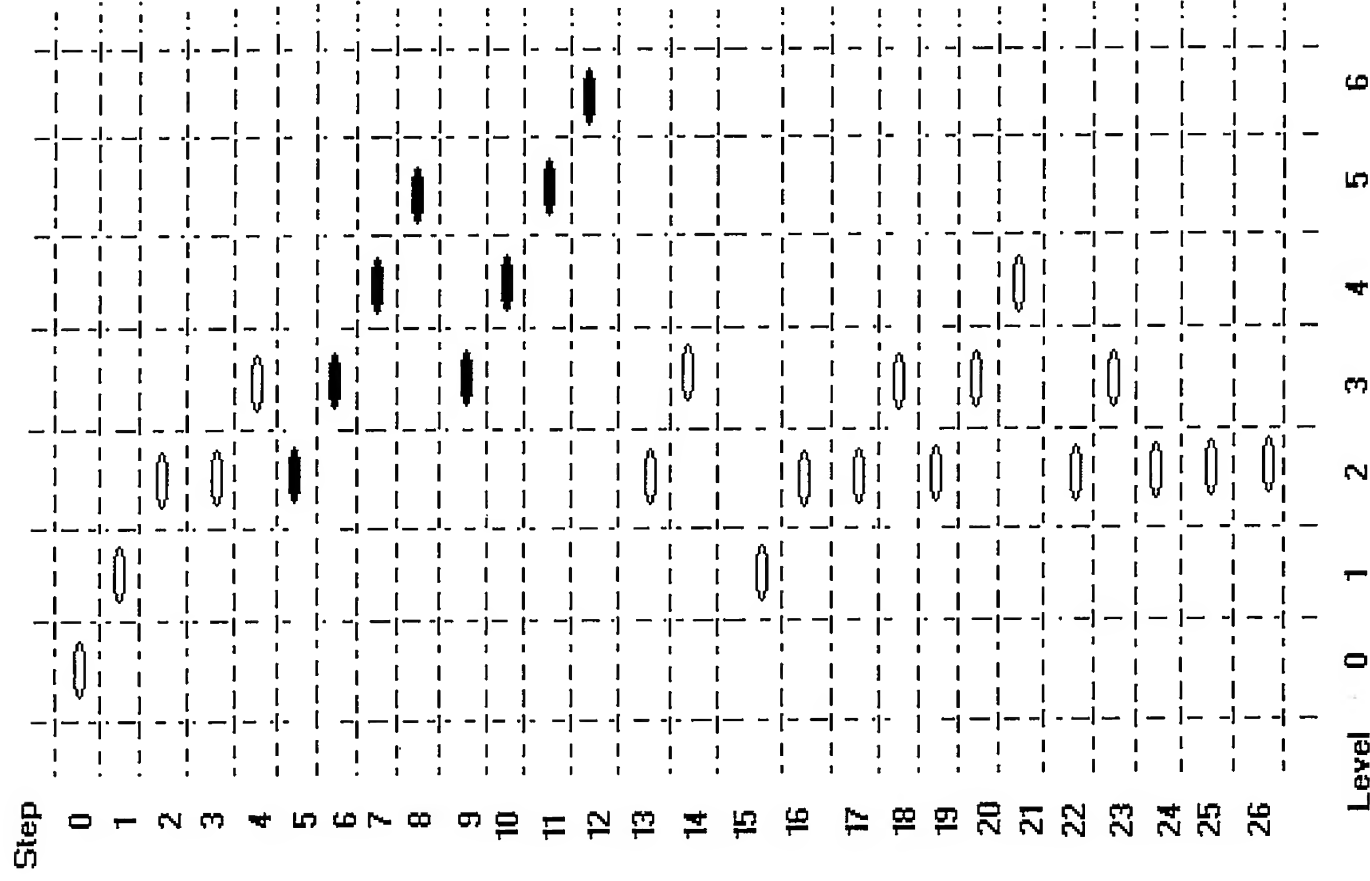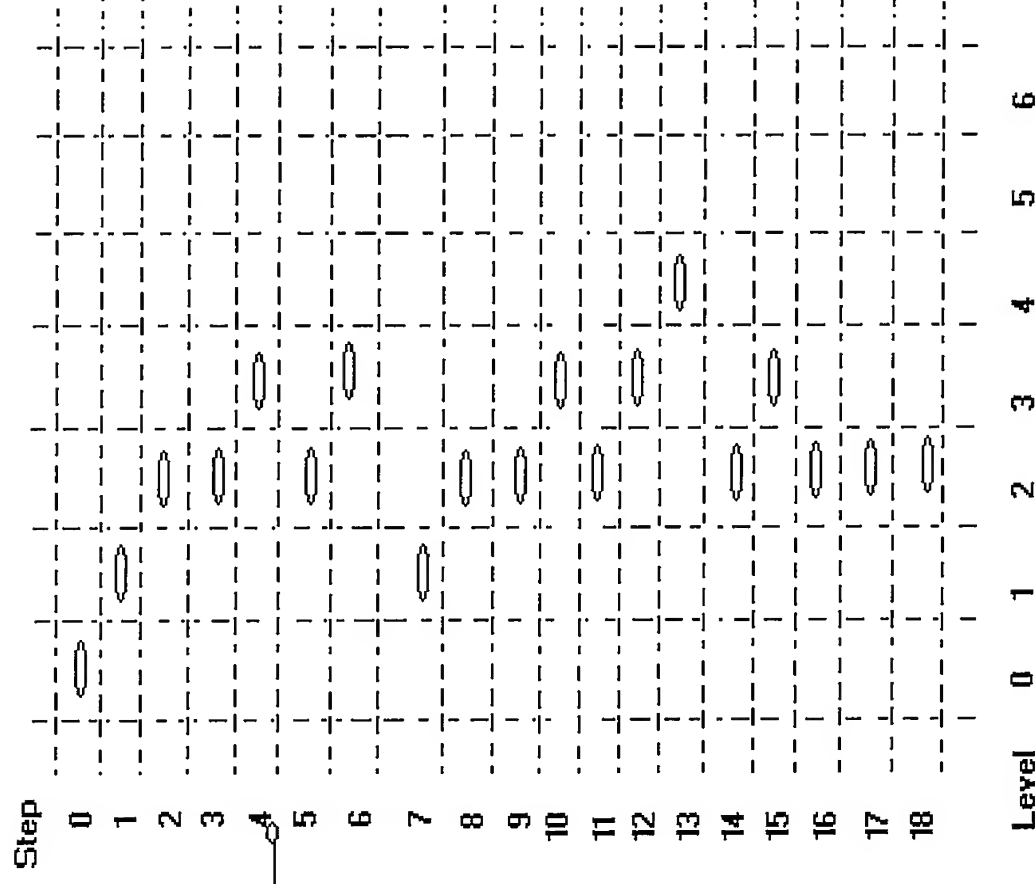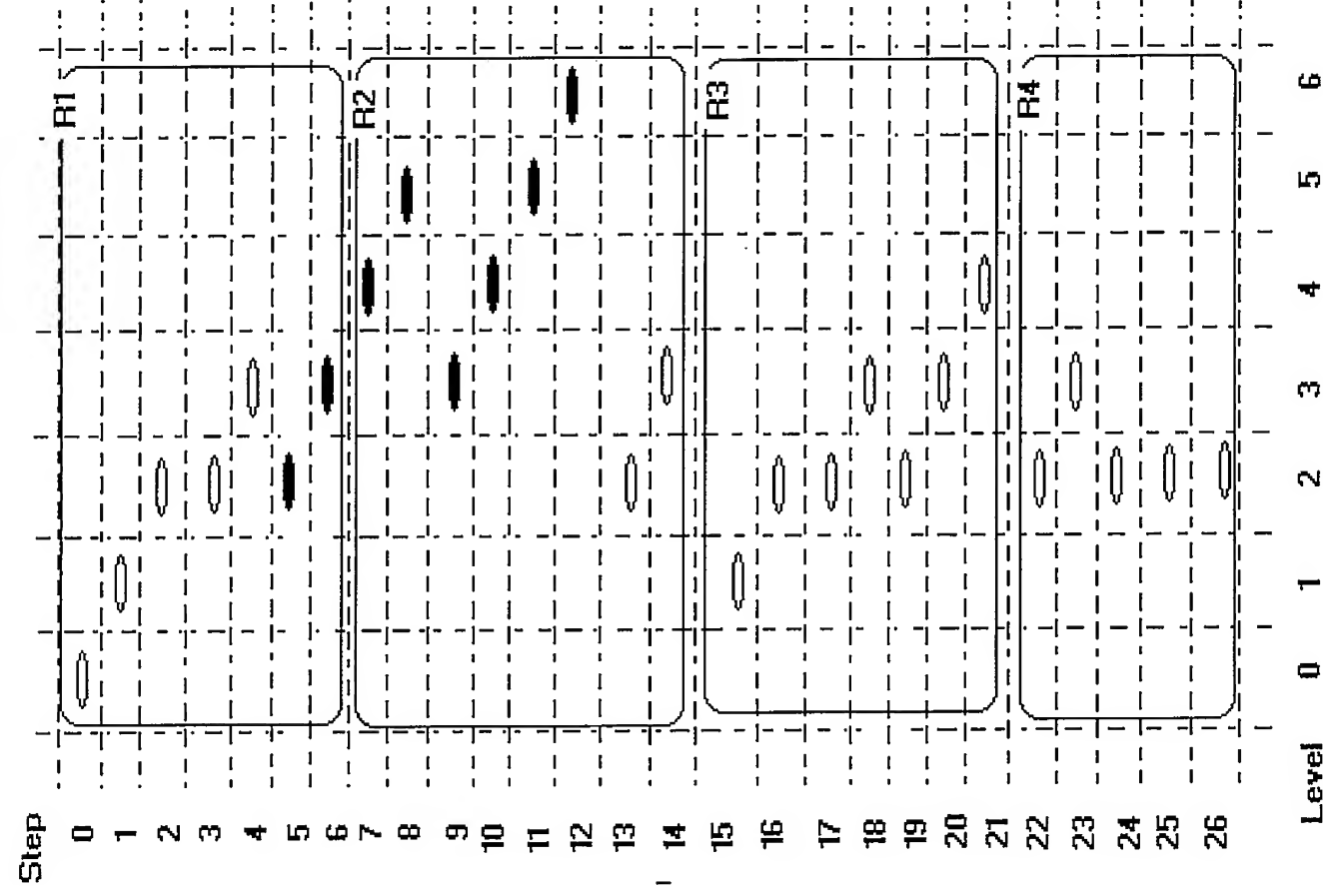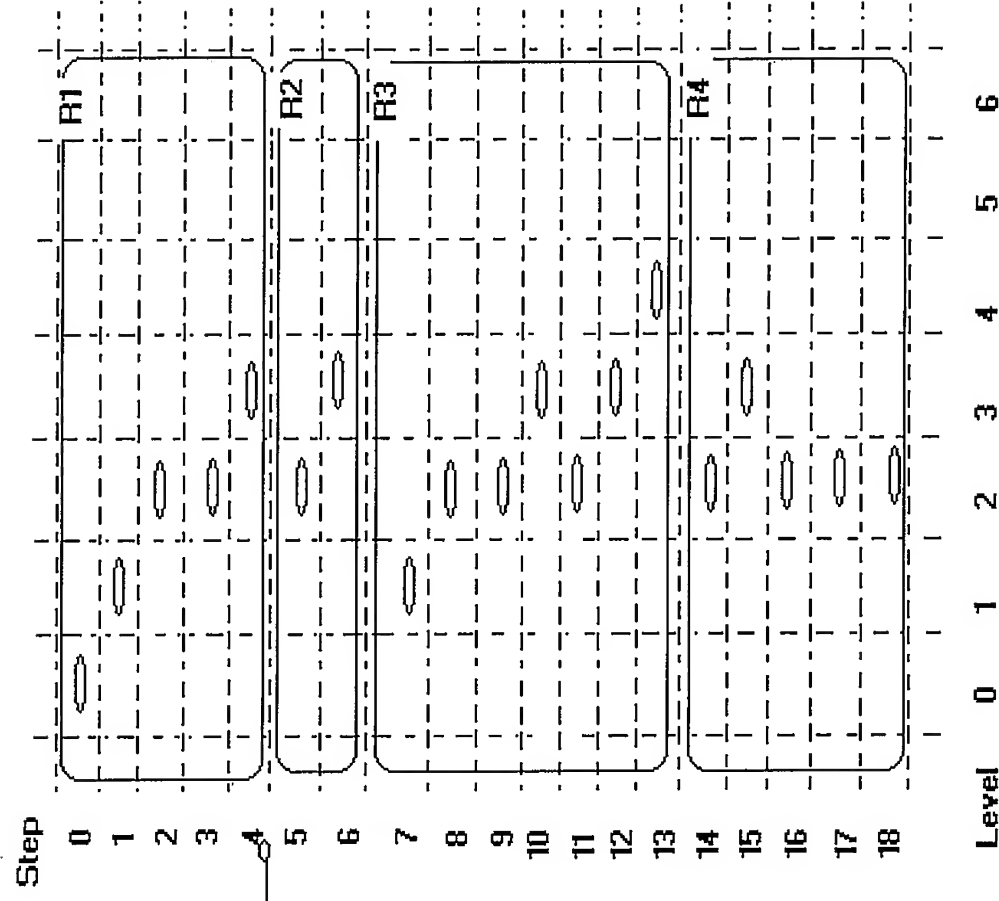|	0	1	2	3	4	5	6
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

Level

FIGURE 16d

Modifications To Regions

FIGURE 16e

Modifications To Regions

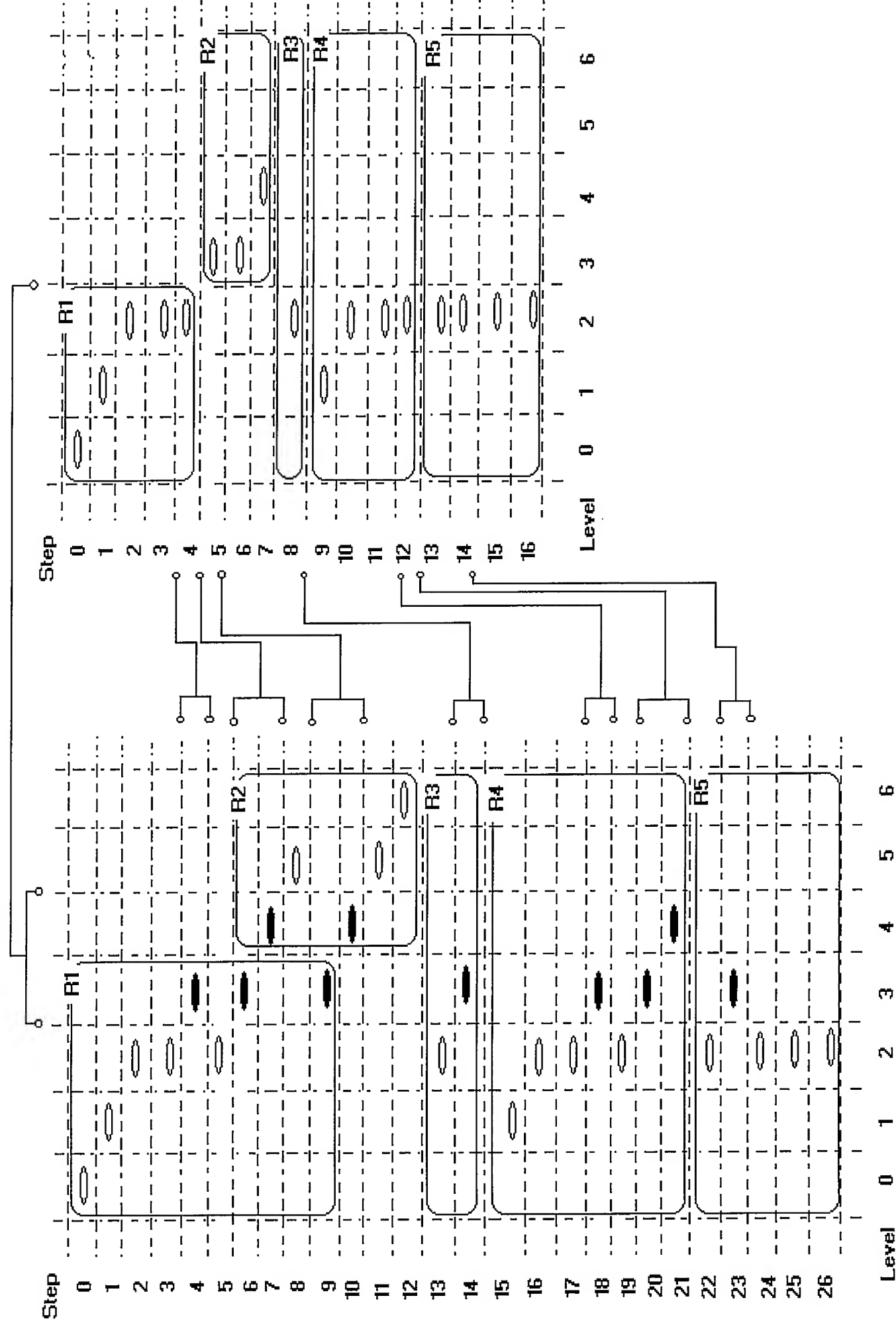FIGURE 16f
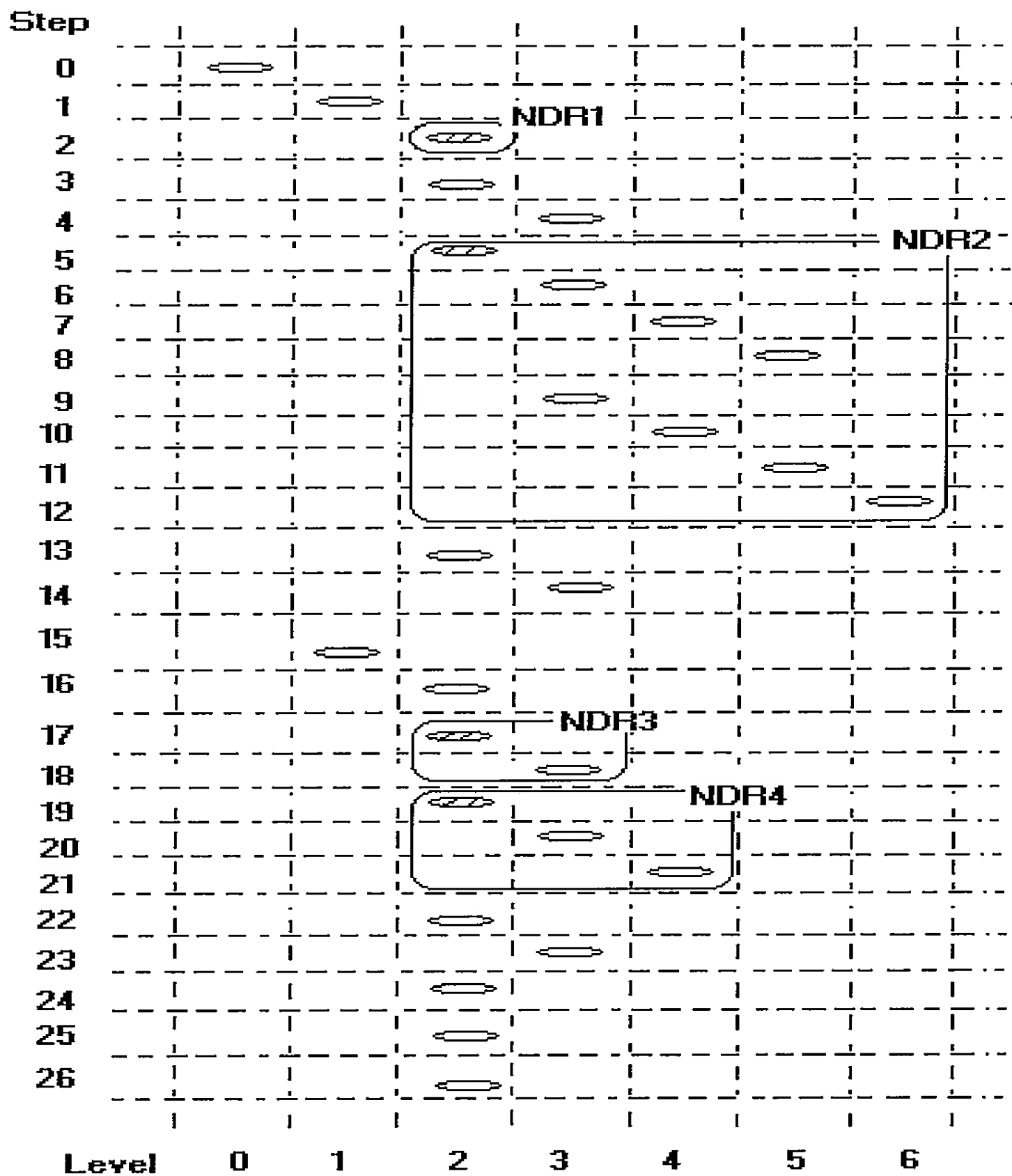
FIGURE 17